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REMARKS

Claims 1-16 remain in the application including independent claim 1. The specification has been amended to overcome the informalities identified by the examiner.

Claim 5 stands objected to for failing to further limit the subject matter of a previous claim. Applicant respectfully disagrees. Steps (a) and (b) of claim 1 recite that engine output shaft and transmission input shaft speeds are monitored. Claim 1 also recites that the first and second reference points are determined based on data from steps (a) and (b). There is no specific identification of what these reference points comprise in claim 1. Claim 5 recites that the first and second reference points are themselves determined in engine revolutions per minute. Thus, claim 5 further limits the subject matter of claim 1, and applicant respectfully requests that the claim objection be withdrawn.

Claims 1-5 stand rejected under 35 U.S.C. 102(b) as being anticipated by Braun (US 4646891). Claim 1 recites the steps of:

(d) determining a first reference point corresponding to a beginning of torque transfer in response to the clutch operational command based on at least data from steps (a) and (b), i.e. monitored speed of engine output shaft and transmission input shaft;

(e) determining a second reference point corresponding to a beginning of clutch lockup based on at least data from steps (a) and (b); and

(f) determining a clutch engagement rate based on the first and second reference points.

Braun does not disclose a system that performs these steps. Braun discloses a system that *predicts* a position of incipient engagement, and then actuates the clutch actuator to move to this

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predicted position at a rapid speed. This is very different than applicant's method as defined in claim 1.

Braun moves from a fully disengaged position to the incipient engagement position as rapidly as possible, and then controls the degree of engagement of the clutch in a modulated manner according to sensed, calculated, or stored inputs. See col. 7, lines 36-48. Braun indicates that the sensing of actual incipient engagement and the changing of speed from rapid to modulated requires time, thus "it is highly desirable to have an accurate means to predict the conditions at which incipient engagement will occur, and to switch the actuator from the rapid unmodulated to the modulated mode of operation just prior to the occurrence of the predicted condition." See col. 7, lines 52-57. To accomplish this the control must have an accurate means to determine the clutch actuator condition that corresponds to the incipient engagement condition.

The condition of the clutch, or the amount of clutch engagement, is related to a monitored clutch actuator parameter. This parameter can be the angular position of the lever 60, fluid pressure in the piston and cylinder assembly 61, axial position of the piston in the piston and cylinder assembly 61, etc. See col. 7, lines 61-68. This parameter is periodically monitored and measured. This reference value is updated once every predetermined number of clutch engagement cycles and is stored for use by the control 30 until updated.

The point of incipient clutch engagement is achieved by commanding the clutch actuator to assume a condition where the monitored clutch actuator parameter is caused to assume a value corresponding to incipient clutch engagement. This value is periodically updated by monitoring

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system parameters such as engine and input shaft speed, which behave in a predictable manner at incipient clutch engagement. See col. 8, line 62 through col. 9, line 3.

There is absolutely no disclosure in Braun of determining a first reference point corresponding to a beginning of torque transfer based on data from monitoring engine output shaft and transmission input shaft speeds, and determining a second reference point corresponding to a beginning of clutch lockup based on data from monitoring engine output shaft and transmission input shaft speeds. Braun does not disclose any type of reference determination at a clutch lockup condition. Further, as Braun does not disclose a reference determination at clutch lockup, Braun certainly does not disclose determining a clutch engagement rate based on the first and second reference points as defined in claim 1.

Thus, applicant respectfully asserts that Braun does not anticipate claim 1. For similar reasons Braun does not anticipate claims 2-5.

Further, claim 2 recites the steps of storing the first and second reference points in long-term memory, updating the first and second reference points over time to provide corrected first and second reference points, and adjusting the clutch engagement rate based on the corrected first and second reference points. Again, Braun does not disclose any determination of a second reference point at a lockup condition. Thus, Braun does not disclose storing, updating or adjusting in relation to this second reference point. At best, Braun discloses using one reference point, i.e. a predicted clutch actuator position for incipient clutch engagement, as a point to modulate clutch engagement. There is nothing in Braun to suggest that clutch engagement rates are adjusted based on initiation of clutch torque transfer and clutch lockup conditions. For similar reasons claim 3 is not anticipated by Braun.

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Claim 4 recites the step of updating the first and second reference points in response to a service event. This is not disclosed in Braun. The examiner argues that the "data for determining reference points are constantly updated, which includes following a service event, thus accounting and adjusting for wear." Applicant respectfully disagrees with this interpretation of Braun. Braun states that the reference value is periodically updated once every predetermined number of clutch engagement cycles. See col. 8, lines 20-23. There is no disclosure that the reference point is updated in response to a service event. Thus, Braun cannot anticipate claim 4.

Claim 5 recites that the first and second reference points are determined in terms of engine revolutions per minute. Braun does not disclose this feature. The reference value in Braun corresponds to a parameter of the clutch actuator such as angular position, pressure, or axial position, etc. Braun does not disclose a determination of any of these reference values in engine revolutions per minute. Thus, Braun cannot anticipate claim 5.

Claims 6-8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Braun in view of Otto (US 2002/0096416A1). For the reasons set forth above, Braun does not disclose, suggest or teach the claimed invention. Otto does not make up for the deficiencies of Braun.

Claims 9-11 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Braun in view of Chan (US 5441462). For the reasons set forth above, Braun does not disclose, suggest or teach the claimed invention. Chan does not make up for the deficiencies of Braun.

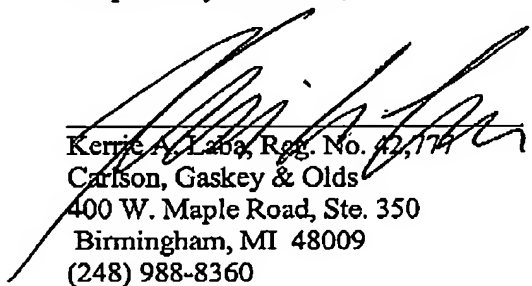
Claims 12-14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Braun in view of Fowler et al. (US 2004/0025617A1). For the reasons set forth above, Braun does not disclose, suggest or teach the claimed invention. Fowler does not make up for the deficiencies of Braun.

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Claims 15-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Braun in view of Shirley (US 4642770) and further in view of Tellert (US 4509625). For the reasons set forth above, Braun does not disclose, suggest or teach the claimed invention. Shirley and Tellert do not make up for the deficiencies of Braun.

Applicant asserts that all claims are in condition for allowance and respectfully requests an indication of such. Applicant believes that no additional fees are necessary, however, the Commissioner is authorized to charge Deposit Account No. 50-1482 in the name of Carlson, Gaskey & Olds for any additional fees or credit the account for any overpayment.

Respectfully submitted,

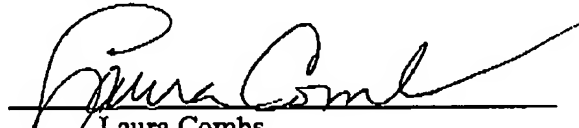


Kerrie A. Laba, Reg. No. 42,174
Carlson, Gaskey & Olds
400 W. Maple Road, Ste. 350
Birmingham, MI 48009
(248) 988-8360

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CERTIFICATE OF TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this correspondence is being facsimile transmitted to the United States patent and Trademark Office, fax number (571) 273-8300, on November 21, 2005.



Laura Combs